

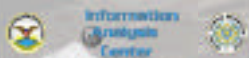
IAC Mission Success Stories

Please visit other DTIC
IAC Mission Success Pages
by following these links...

AMPTIAC
CBIAAC
CPA
DACS
HSAAC
LATAAC
LRIA
MIAAC
MITIAC
MTIAC
RAC
SURVIAC
WSTIAC

Please visit other Military
IAC Mission Success Pages
by following these links...

APMIAC
CEIAC
GRSTIAC
GTIAC
OTIAC
EIAAC
HEIAC
SRMIAC
SWIAC



Defense Technical Information Center
ATTN: DTIC-R
4725 John J. Kingman Road, Suite 844
Fort Belvoir, AZ 86215
Commercial: 703.767.5820
DSN: 421.5120
FAX: 703.767.5119
E-mail: rac@itri.org



RAC

Story 1

Story 2

Program Management for Optimal Sustainment "AN/ALQ-184 Multifunctional Circuit Card Development"

RAC is developing a multifunctional circuit card for the AN/ALQ-184 system. The circuit card is capable of emulating any one of eight circuit cards—the ultimate goal being to reduce the support costs for the system while improving availability. The approach is also a counter against potential obsolescence issues for the eight cards currently configured in the system.



Continued on Story 1

RAC Supports Reducing O&M Costs of In Service NAVAIR Systems

RAC is playing a significant role in the Navy's ongoing efforts to reduce fleet operating costs. A comprehensive effort sponsored by the Naval Inventory Control Point (NAVICP) Philadelphia and NAVAIR has been undertaken at each of the Naval Aviation Depots (NADEPS) addressing the issue of declining equipment availability and rising operating costs. There are significant cost benefits in achieving inherent reliability or, improving reliability through in-service support. Core teams have been formed to establish reliability "centers of excellence" that will develop and apply reliability analysis processes inside each of the respective depots; Cherry Point, NC; North Island, CA; and Jacksonville, FL. With RAC assistance, they are conducting in-depth reliability analyses on selected components to ensure that each repaired or overhauled component leaving the depot is capable of meeting its design life. During their analyses, the teams are also looking for cost-effective changes to either industrial processes or component design that may lead to significant reliability improvements.

Continued on Story 2

Please visit our Web site at <http://rac.itri.org/> or send us an E-mail to rac@itri.org

IAC Mission Success Stories

Please visit other DTIC IAC Mission Success Pages by following these links...

AMPTIAC
CBIIAC
CPIIAC
DACS
HSDIAC
IATAC
IRIA
ISIIAC
ITIIAC
MTIIAC
RAC
SURVIAC
WSTIAC

Please visit other Military IAC Mission Success Pages by following these links...

APMIAC
CEMIAC
GSIAC
CTIAC
OTIAC
EAC
HEIAC
SAMIAC
SWIAC

Defense Technical Information Center
DTIC
7035 John J. Kingman Road, Suite 844
Fort Belvoir, MO 63760-6216
Commercial: 703 767 5820
DSN: 421 5120
FAX: 703 767 5119
E-mail: info@dtic.mil



RAC

Story 1

Story 2

Program Management for Optimal Sustainment "AN/ALQ-184 Multifunctional Circuit Card Development" (continued)

The AN/ALQ-184 countermeasures system is housed in a pod configuration and provides targeting avoidance protection for most USAF fighter aircraft. The system was designed in the early eighties and is quite typical from a sustainment management perspective in today's Air Force. It is typical because program managers are faced with the task of providing more to the user with less. This effort is clearly a means to accomplish this.



Designing the multifunctional circuit board requires the use of a Field Programmable Gate Array (FPGA). The FPGA is a programmable array of logic circuitry that is housed in a single integrated circuit. When set, using external switches, the card can emulate any one of eight circuits currently employed in the functionality of the system. Once qualified, there will be three distinct benefits—

1. The need for spares inventory is reduced as on board will be required for any of the eight functions
2. The new boards will exhibit improved reliability as there are less parts that consume less power
3. Obsolescence issues concerning the new boards will diminish to a minimal level

RAC's role in this effort requires the design, reliability analysis, and test of the new boards. The design will then be passed to the program and engineering office for manufacture. To date, RAC has successfully completed bench testing and will support in-system dynamic testing. The effort demonstrates on the successful elements of the sustainment management solution.

Please visit our Web site at <http://rac.iitri.org/> or send us an E-mail to rac@iitri.org

R



IAC Mission Success Stories

Please visit other DTIC IAC Mission Success Pages by following these links...


- AMPTIAC
- CBICAC
- CPICAC
- DCICAC
- HSICAC
- IAICAC
- IRIAC
- ISICAC
- MTICAC
- NTICAC
- RAC
- SURVICAC
- WSTICAC

Please visit other Military IAC Mission Success Pages by following these links...

- APMIAC
- CEMIC
- CRSTICAC
- CTIAC
- CTRUAC
- EDICAC
- HEICAC
- SAVICAC
- SWIAC


Information Center


Defense Technical Information Center
 ATTN: DTIC-RI
 8735 John J. Kingman Road, Suite 6944
 Fort Belvoir, VA 22060-6216
 Commercial: 703.767.5120
 DSN: 421.5120
 FAX: 703.767.5119
 E-mail: rac@itri.org




RAC
Story 1
Story 2

RAC Supports Reducing O&M Costs of In Service NAVAIR Systems (continued)

The potential cost savings to the Navy's AVDLR budget are substantial. The NAVAIR Depot Operations Competency, AIR-6.0 is striving for a 30% reduction in components being returned to the depot per year, resulting more than \$200M in savings over the FYDP. Though this estimate may seem optimistic, prototype efforts indicate they are achievable. The process developed by the NADEP Reliability Teams (NRT) and RAC involves a complete examination of the operational and repair cycle that a component experiences. Each component selected by the stakeholders for analysis is tracked through the entire repair/overhaul cycle at the depot from arrival through final packaging. Each step in the depot handling and repair process is evaluated and potential reliability degraders or enhancements are identified. NRT engineering and logistics personnel then evaluate the information and data and make cost-effective recommendations for reliability improvement. The entire project is a cooperative effort involving depot personnel, FST engineers and logisticians, fleet maintenance personnel, and RAC personnel. More than 250 of these personnel have attended RAC training courses as part of this effort, providing them a basic understanding of the types of activities and techniques needed to perform reliability analysis and performance tracking.

The processes were successfully prototyped at NADEP Cherry Point on the AV-8B Stabilizer Actuator Servocylinder. RAC and NRT personnel identified several serious technical publication errors, which caused artisans to incorrectly test an electric motor that was a sub-component of the actuator. This motor—costing \$4400 each—was considered to be unreparable and was being scrapped at a rate of approximately 15 per quarter. RAC developed new testing and repair procedures for the motor which led to a greater than 90% pass rate and a cost avoidance of approximately \$240,000 per year. The depot re-tested 37 stored units awaiting new motors and repaired all of them for a further savings of \$162,800. The effort eliminated a potential major fleet readiness degrader and enabled the depot to put out a better product. This type of success is being mirrored at Jacksonville and North Island. Each, in partnership with RAC, have already completed prototype efforts which will lead to projected savings of more than \$30M over 10 years. The NADEP/RAC partnership is yielding large returns and benefiting the warfighter in near term, tangible benefits. As the NADEP Reliability Teams gain experience and expertise, RAC will be there to ensure that they are equipped with the best Reliability tools available and that the lessons learned are distributed throughout DoD.



Please visit our Web site at <http://rac.itri.org/> or send us an E-mail to rac@itri.org

file:///I:\IATAC%20%26%20MS\Mission%20Success%20Site\rac\rac2.htm